

# Riverbreaks Conservation Area

## Ten-Year Area Management Plan FY 2015-2024



Lisa B. Allen  
Forestry Division Chief

9-3-15  
Date

## Riverbreaks Conservation Area Management Plan Approval Page

### PLANNING TEAM

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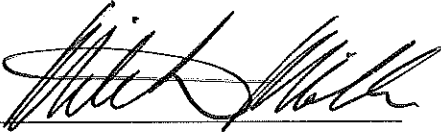
Jade Wright, Conservation Agent

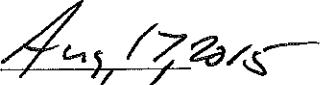
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### NORTHWEST REGION


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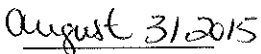
  
Signature

  
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### FORESTRY DIVISION

Unit Chief

  
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## OVERVIEW

- **Official Area Name:** Riverbreaks Conservation Area, # 8114
- **Year of Initial Acquisition:** 1981
- **Acreage:** 2,307 acres
- **County:** Holt
- **Division with Administrative Responsibility:** Forestry
- **Division with Maintenance Responsibility:** Forestry
- **Statements of Purpose:**

### A. Strategic Direction

The Riverbreaks Conservation Area (CA) is managed to benefit populations of game and non-game species; enhance native vegetation in grassland, woodland and forest ecosystems; and provide quality recreational opportunities for the public, including target shooting, sport fishing and hunting of deer, turkey and other small game.

### B. Desired Future Condition

Maintain a healthy and sustainable woodland and forest ecosystem while incorporating cropland management and public recreational opportunities in the area.

### C. Federal Aid Statement

N/A

## GENERAL INFORMATION AND CONDITIONS

### I. Special Considerations

A. **Priority Areas:** None

B. **Natural Areas:** None

### II. Important Natural Features and Resources

A. **Species of Conservation Concern:** Species of conservation concern are known from this area. Area Managers should consult the Natural Heritage Database annually and review all management activities with the Natural History Biologist.

B. **Caves:** None

C. **Springs:** None

D. **Other:** According to the *Atlas of Missouri Ecoregions* (Nigh & Schroeder, 2002), Riverbreaks CA occurs in the Loess Hills subsection, Missouri River Loess Woodland/Forest Breaks Landtype Association. This landtype consists of a thick loess mantle and soils with rugged, deep loess hills bordering the Missouri River floodplain. Local relief is generally around 200 feet. Narrow ridges, steep slopes and numerous short, steep drainages are common. Bedrock and glacial till can be found in the deeper valleys. Vegetation includes prairie with timber (oak and mixed-hardwood woodland and forest) in the valleys and steeper slopes. Today

only the roughest lands are still timbered with second growth while the remainder is grass pasture, crops and urbanization (Nigh & Schroeder, 2002).

### III. Existing Infrastructure

- 7 parking lots, 1 American with Disabilities Act (ADA) accessible pad
- 6 designated primitive camping areas
- 1 unstaffed single projectile shooting range (ADA accessible)
- 1 vault pit toilet (ADA accessible)
- 1 primitive multi-use (hiking/biking/horseback riding) trail system (4 miles)
- 1 primitive service road/hiking trail (4 miles)
- 8.5 miles of interior service roads suitable for hiking
- 0.5 miles of maintained gravel public access roads
- 10 fishless watering holes
- 3 fishable ponds

### IV. Area Restrictions or Limitations

- A. Deed Restrictions or Ownership Considerations:** On 500 acres, the sellers retained half oil, gas and mineral rights (Figure 3).
- B. Federal Interest:** Federal funds may be used in the management of this land. Fish and wildlife agencies may not allow recreational activities and related facilities that would interfere with the purpose for which the State is managing the land. Other uses may be acceptable and must be assessed in each specific situation.
- C. Easements:** Public road rights of way and utility easement with Public Water District #1
- D. Cultural Resources Findings:** Cultural resources have been found on the area. Records are kept with the Missouri Department of Conservation (the Department) Environmental Compliance Specialist in Central Office located in Jefferson City. Managers should follow *Best Management Practices for Cultural Resources* found in the Department Resource Policy Manual.
- E. Hazards and Hazardous Materials:** None observed.
- F. Endangered Species:** None observed.
- G. Boundary Issues:** None

## MANAGEMENT CONSIDERATIONS

### V. Terrestrial Resource Management Considerations

The forest community consists of mesic and dry loess/glacial till forest. This natural community contains mesophytic or mixed hardwood forest with multiple vertical layers. The soils are deep, well-drained, have naturally high fertility and are strongly acidic to neutral (pH of 5.1-7.3). The canopy is typically composed of a few dominant tree species with several trees species co-dominant or in an intermediate position. Canopy dominants range from 60 to 130 feet tall or taller with overlapping and spreading crowns and a nearly complete (>80%) canopy closure. Dominant species include white oak, shagbark hickory, northern red and black oak, basswood, ash, black walnut, Kentucky coffee tree and sugar maple. The understory contains Ohio buckeye, pawpaw and eastern hop hornbeam. A subcanopy of short structure trees (15-30 feet) is present. The understory is composed of shade-tolerant shrubs, small trees and canopy saplings (5-10 feet tall) and woody vines. The ground layer consists of shrubs, many vernal herbs, ferns and a patchy scattering of mosses and fungi. Decaying logs and leaf litter is often covered in mosses, liverworts and fungi. The number of woody and vernal herbaceous species is high. Woody vines, shrubs, trees, ferns and perennial forbs are important groups.

The mesic loess/glacial till forest occurs on lower back slopes, foot slopes, toe slopes and in ravines in breaks and hills associated with landscapes that are highly dissected by streams. They are gently sloping to steep (5-35% slope or more), typically with north and east aspects. (Nelson, 1985).

#### **Challenges and Opportunities:**

- 1) Enhance the forest and woodland communities on the area.
- 2) Enhance deer and turkey habitat on the area.
- 3) Enhance the diverse mixture of quality native vegetation.

**Management Objective 1:** Manage for healthy and sustainable mixture of woodland and forest communities on the area.

**Strategy 1:** Conduct forest inventory by compartment with an estimated re-entry time of 15 years or as needed.

**Strategy 2:** Utilize Best Management Practices, including adequate riparian buffers, to reduce soil erosion and increase water quality.

**Strategy 3:** Monitor woodlands and forests for invasive exotic vegetation, diseases and insects. Treat undesirable vegetation and pests to control spread.

**Strategy 4:** Implement silvicultural practices as prescribed by the detailed forest inventory process (Figure 2).

**Management Objective 2:** Enhance deer and turkey habitat and habitat for non-game species on the area.

**Strategy 1:** Provide diverse habitat using agricultural, mechanical and chemical treatments; prescribed fire; and native food types, including hard and soft tree and shrub mast.

**Management Objective 3:** Enhance the diverse mixture of quality native vegetation.

**Strategy 1:** Implement agricultural disturbances (including prescribed fire) to establish and maintain quality vegetation.

**Strategy 2:** Monitor and annually treat exotic and noxious vegetation and pests with herbicides, mechanical methods and prescribed fire.

## **VI. Aquatic Resource Management Considerations**

### **Challenges and Opportunities:**

- 1) Provide sport fish populations on area fisheries.
- 2) Prevent the infestation and spread of nuisance aquatic species.
- 3) Manage the riparian corridor.

**Management Objective 1:** Provide sport fish populations on area fisheries.

**Strategy 1:** Periodically survey fish to monitor sport populations, e.g., measure largemouth bass and bluegill proportional stock density.

**Strategy 2:** Supplementally stock fish (e.g., channel catfish), when needed to maintain angling opportunities.

**Management Objective 2:** Prevent the infestation and spread of nuisance aquatic species.

**Strategy 1:** Plant native vegetation (e.g., water willow, water lily) if needed.

**Strategy 2:** Apply herbicide treatments on aquatic nuisance species, if needed.

**Management Objective 3:** Manage the riparian corridor.

**Strategy 1:** Plant native trees and native vegetation, as needed.

## **VII. Public Use Management Considerations**

### **Challenges and Opportunities:**

- 1) Provide infrastructure and regulations for the public to access terrestrial resources including hunting, target shooting, multi-use trails (hiking/biking/horseback riding) and viewing opportunities.

- 2) Provide area users with compatible and inviting multiple use opportunities for recreation, education and information.

**Management Objective 1:** Maintain infrastructure and regulations to facilitate the public's access to resources and recreational opportunities.

**Strategy 1:** Monitor and evaluate infrastructure and regulations annually.

**Strategy 2:** Maintain access to area.

**Management Objective 2:** Provide area users with compatible and inviting multiple use opportunities for recreation, education and information.

**Strategy 1:** Maintain accurate area information and regulations through the Missouri Conservation Atlas, area brochures, posted information and staff contacts with area users.

**Strategy 2:** Promote compatible uses for hunting, fishing, birding, hiking, camping and nature photography.

## VIII. Administrative Considerations

### **Challenges and Opportunities:**

- 1) Maintain area infrastructure at current levels.
- 2) Acquisition of land, when available.

**Management Objective 1:** Maintain area infrastructure at current levels.

**Strategy 1:** Maintain area infrastructure in accordance with Department guidelines and at the currently identified maintenance level (1 and 2).

### **Lands Proposed for Acquisition:**

When available, adjacent land may be considered for acquisition from willing sellers.

Tracts that improve area access, provide public use opportunities, contain unique natural communities and/or species of conservation concern, or meet other Department priorities, as identified in the annual Department land acquisition priorities, may be considered.

## **MANAGEMENT TIMETABLE**

All strategies for this management plan are considered ongoing.

## APPENDICES

### Area Background:

Riverbreaks Conservation Area is located approximately 25 miles north of St. Joseph, in Holt County. The Department began acquiring the area in 1981. It currently contains 2,307 acres. The area was originally purchased to protect a large remnant tract of forest land in the northwest part of the state.

The Conservation Area is located within the Loess Bluffs, adjacent to the Missouri River floodplain. Loess soil is a unique natural feature that was formed as glaciers melted, leaving behind very fine wind-blown deposits. The soil is prone to erosion, especially if the original columnar structure is disturbed. Local relief can be as much as 200 feet of loess soil on top of a base limestone shelf.

Approximately 63 percent of the conservation area is currently covered in trees (mixed oak-hickory). The remaining acres consist of old fields, wildlife food plots, warm-season grass plantings, wildlife watering holes, ponds and small remnant loess hill prairies, mostly located on ridge tops and south-facing slopes.

Prior to Department purchase and European settlement, Native Americans inhabited the area. Since then, the area was settled mostly by farmers and ranchers, who divided the area into small to medium sized ownerships, dotted with homes and crossed with fences.

The area is open to the public from 4 a.m. to 10 p.m. daily (except as otherwise authorized or restricted). Special facilities include a single projectile target shooting range; hiking trails and a multiuse (hiking/biking/horseback riding) trail system that leads through lush forests, open fields and overlooks of the Missouri River floodplain.

### Current Land and Water Types:

Land/Water Type	Acres	Feet	% of Area
Forests/Woodlands	1,452		63
Old Fields	792		34
Native Grasses	50		2
Miscellaneous	10		<1
Water	3		<1
<b>Total</b>	<b>2,307</b>		<b>100</b>
Stream Frontage		11,600	

### **Public Input Summary:**

The draft Riverbreaks Conservation Area Management Plan was available for a public comment period March 1–31, 2015. The Missouri Department of Conservation received comments from seven respondents (Appendix A). The Riverbreaks Conservation Area Planning Team carefully reviewed and considered these ideas as they finalized this document. A brief summary of public input themes, including how they were incorporated or why they were not, can be found below. Rather than respond to each individual comment, comments are grouped into general themes and are addressed collectively.

### Department responses to themes and issues identified through Riverbreaks Conservation Area public comment period

### **Terrestrial Resource Management**

#### **Suggests more native grasses/prairies and smaller percentage of row crops/old field on the area.**

The Area Planning team has considered the suggestion to decrease the number of acreages of row crops/old fields on Riverbreaks Conservation Area (Management Objective 3; Strategies 1 & 2). Through periodic disturbances and controlling exotic plants these open acres offer diversity and benefits for area users and wildlife. Currently, Riverbreaks CA contains 2,307 acres, of which the majority – 63 percent, are covered in trees. Of the remaining land, only 842 acres or 36 percent is in some kind of grass/broadleaf cover. Less than 1 percent (average of 15 acres per year) of the area is planted to row crops (corn, soybeans, milo, clover and left fallow) by Department of Conservation staff. Most would consider these row crop fields to be small wildlife food plots. The remaining old fields are a diverse mix of cool season grasses, forbes and woody brush, all of which benefit wildlife habitat and reduces potential loess soil erosion.

### **Public Use Management**

#### **Trails**

#### **Suggests adding an 8 miles of multi-use trail (hike/horse) to the western tract of area.**

Currently Riverbreaks Conservation Area has 4 miles of designated multi-use trails (includes equestrian, hiking and biking activities) and adequate parking facility for large pickup/trailer combinations on the east tract.

The establishment of additional multi-use trails would increase the area maintenance and enforcement requirements such as loess soil erosion control, litter patrols, unauthorized trail use, the potential to spread and/or the introduction of invasive-non-native plant seeds, and increases the potential of interference with existing area uses and habitats on the area. There are currently

4 other Conservation Areas in the Northwest Region that have multi-use trails allowing equestrian use (Bonanza CA, Bunch Hollow CA, Poosey CA and Honey Creek CA - which is only 11 miles from Riverbreaks and offers approximately 13 miles of multi-use trails). The Area Planning Team does not recommend developing a multi-use trail system on the west tract on Riverbreaks CA.

**Appreciates being able to horseback ride at the area. Horseback riding provides access for those with disabilities who would not otherwise have access to the area's trails.**

The Department of Conservation strives to provide as many activities as possible for those with disabilities.

**Opposes allowing bicycles at the area.**

Multi-use trails are trails specifically designated for hiking, biking and equestrian activities. Multi-use trails are designed and maintained to accommodate all three uses with minimal erosion potential and conflict with other area uses. Riverbreaks CA also offers undeveloped service roads and trails that are not multi use. These service roads and trails are open to foot traffic only and therefor exclude biking and equestrian uses.

**Hunting**

**Concern about not able to find rabbits and quail on this area and others.**

The Area Planning team has taken this concern into consideration. Both from a historical perspective and the current conditions, Riverbreaks is dominated (63 percent of the total acres) by an oak/hickory forest and woodland habitat type. The remaining acres (36 percent) are managed as openland habitat including old fields, food plots, edge and early successional woody/brush cover. The openland acres are managed to benefit both non game and game animals including but not limited to migratory birds, deer, turkey, rabbits and quail. Management activities within the forested acres include timber stand improvement, timber sales and edge feathering will also benefit these same animals.

**Camping**

**Suggests adding more primitive campsites.**

Riverbreaks Conservation Area offers primitive camping opportunities on and around all but one of the area's seven parking lots. The only parking lot closed to camping is at the shooting range. The Area Planning team feels the six existing primitive camping sites are well located, provide varied camping options and offer good access to most of the 2,300 acres the area covers.

### **Shooting Range**

#### **Suggests adding berms to the shooting range.**

A comprehensive statewide shooting range study (which includes shooting range user input) is currently underway and will include recommendations regarding the shooting range at Riverbreaks CA. The Area Planning team agrees it is prudent to have the range study results done before proceeding with any potential changes to the range.

#### **References:**

- Nelson, P. W. (1985). *The terrestrial natural communities of Missouri*. Jefferson City, Missouri: Missouri Natural Areas Committee.
- Nigh, T. A., & Schroeder, W. A. (2002). *Atlas of Missouri ecoregions*. Jefferson City, Missouri: Missouri Department of Conservation.

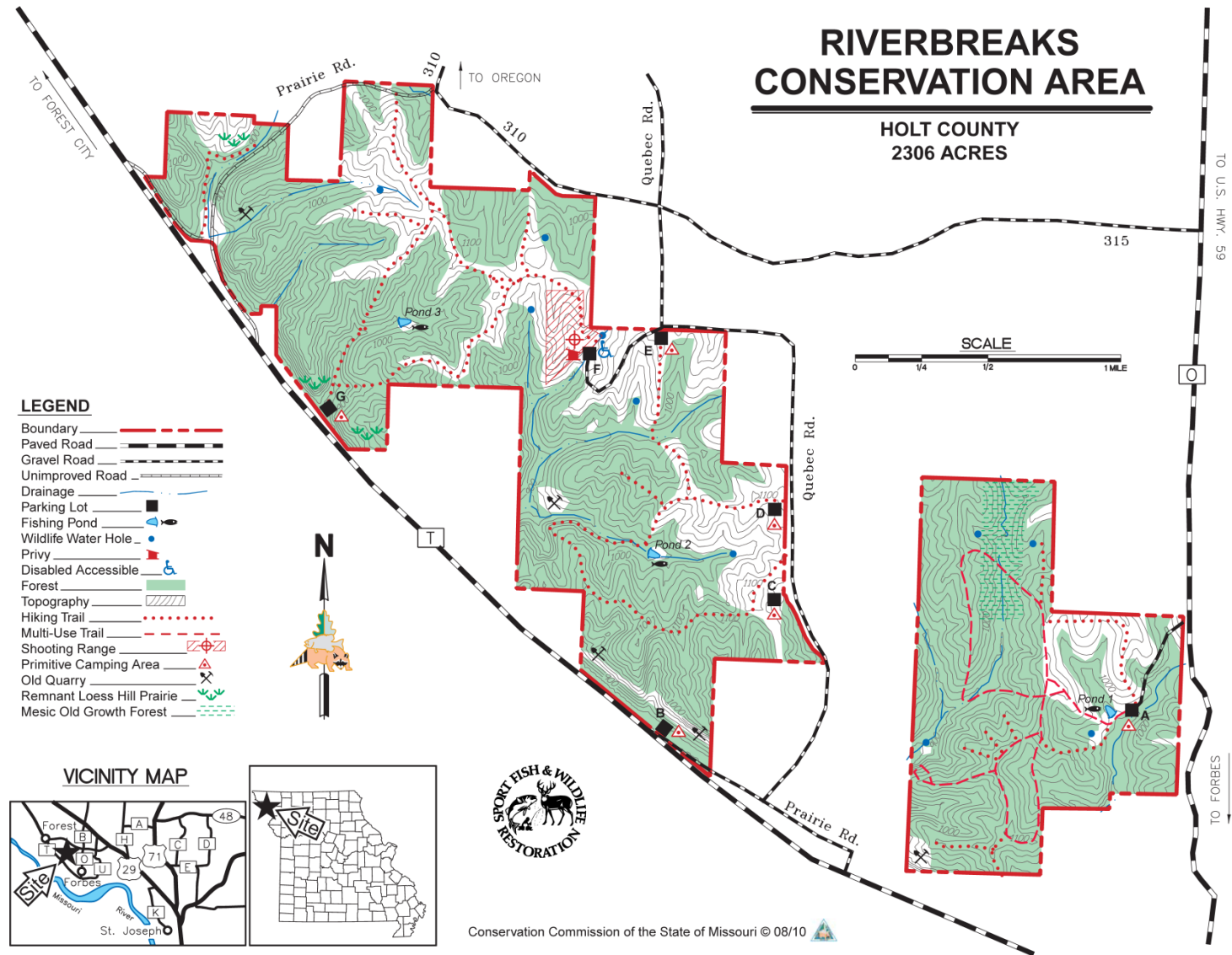
#### **Maps:**

- Figure 1: Area Map
- Figure 2: Aerial Map
- Figure 3: Mineral Rights Map

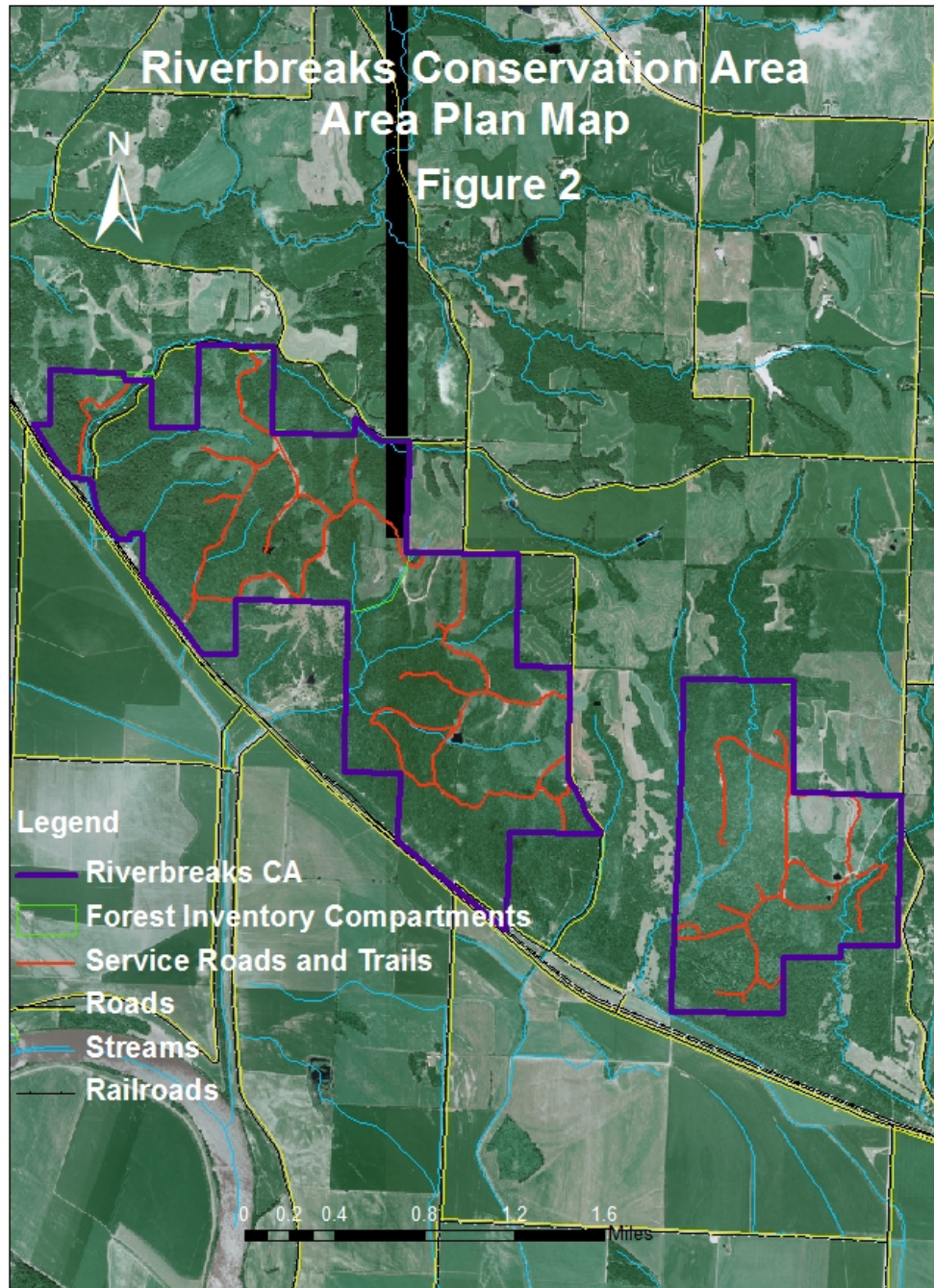
#### **Additional Appendices:**

- Appendix A: Draft Riverbreaks Conservation Area Management Plan Public Comments

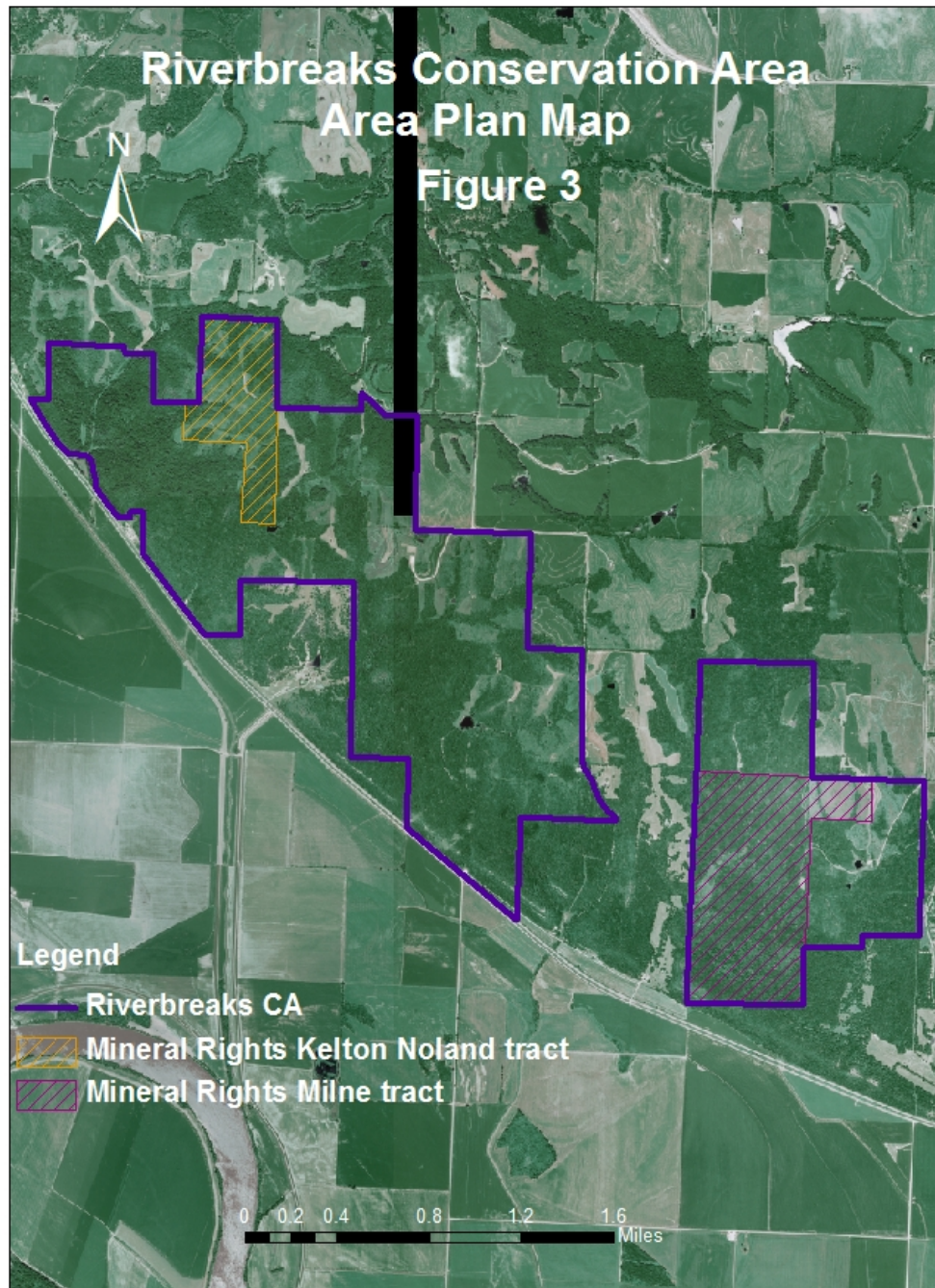
**Figure 1: Area Map**



**Figure 2: Aerial Map**



**Figure 3: Mineral Rights Map**



## Appendix A: Draft Riverbreaks Conservation Area Management Plan Public Comments

Received during public comment period (March 1-31, 2015)

I would like to see more camping areas on your grounds, primitive is fine.

My main concern is small game and quail. I am an avid hunter and I frequent many MDC areas on a regular basis and I am sad truly unhappy with the lack of rabbits and quail that I see. Without exaggeration I go entire seasons without seeing any rabbits or quail on your areas. I really wonder where your focus is concerning the rabbit and quail hunting. I don't seem to have a problem on my farm finding game or neighbors farms but I am sadly disappointed on MDC land!

I have personally used the Riverbreaks CA and really enjoy it. While I understand the economical impact as well as the forage benefits to Deer & Turkey. I feel the ratio of row crop to native grasses and prairie is lopsided. The Strategic Direction is described as "The Riverbreaks Conservation Area (CA) is managed to benefit populations of game and non-game species; enhance native vegetation in grassland, woodland and forest ecosystems;...". I do not feel that 34% of this land in row crop and 2% in native grass is meeting that direction. This large percentage of row crop also goes against the efforts to curb erosion in this area. I would propose and increase over the 10 year period to 8%-12% warm season native grasses, prairie and wildflowers. I believe the benefits to pollinating species, birds, wildlife and erosion control would be extraordinary. There are organizations such as Pheasants & Quail forever, National Wild Turkey Federation and others that will assist with conversion of these lands to Prairie in whatever manner they can. Further more utility companies are becoming more aware of benefits to their companies and wildlife by introducing different management practices in large right-of-ways. With a moderately large power right-of-way running through Riverbreaks that offers another unique opportunity to create prairie land possibly at a reduced cost to the state.

Adding berms to the shooting range would make it safer, especially on the 100 yard. On occasion I have had shooting occur while I was setting up/replacing a target on the 100. I have hiked or hunted almost all of the land at Riverbreaks and it is a very nice and well maintained area.

Having ridden the trail(s) at the Riverbreaks CA, I have wondered why there is only horseback riding only on designated multiuse trail located on East tract and NONE on the West tract. There is more acreage on the West tract and the possibility of riding the perimeter of the conservation area and other multiuse areas would not - in my opinion - impact the area.

First, thank you for the opportunity to comment on the Riverbreaks CA Draft Management Plan. MDC is to be commended for permitting equestrian use on four miles of multi-use trails on Riverbreaks CA. Although the equine population in Holt County is not large the Riverbreaks area provides a riding opportunity to neighboring counties, some of which are underserved. The four miles of trail on the east tract, however, are not long enough to provide a quality day-use experience; 10-12 miles of trails are really needed. Show-Me Missouri Back Country Horsemen recommends the development of an additional eight miles of trails. Since the east tract is small it would seem practical to develop these trails on the larger west tract. Some existing hiking trails

(that follow the general contour) and unimproved Prairie Rd might be used. Although the terrain is steep the soil can be protected from erosion by careful trail layout.

Expansion of the equestrian trails on Riverbreaks CA is a priority in SMMBCH's 2015 comprehensive proposal to expand public land riding opportunities in Missouri. SMMBCH offers our services (availability of volunteers permitting) to help decide on the best location and then clear and mark the trails.

Thank you again for the opportunity to comment.

My husband is partially disabled and cannot hike, but can ride his horse. We really appreciate having trails open to equestrians because it is the only way he can see much of what Missouri has to offer. Please continue allowing equestrian access to trails - and please consider allowing equestrian use on interior service roads. Thank you!

Bicycles should not be allowed in any natural area. They are inanimate objects and have no rights. There is also no right to mountain bike. That was settled in federal court in 1996: <http://mjvande.nfshost.com/mtb10.htm> . It's dishonest of mountain bikers to say that they don't have access to trails closed to bikes. They have EXACTLY the same access as everyone else -- ON FOOT! Why isn't that good enough for mountain bikers? They are all capable of walking....

A favorite myth of mountain bikers is that mountain biking is no more harmful to wildlife, people, and the environment than hiking, and that science supports that view. Of course, it's not true. To settle the matter once and for all, I read all of the research they cited, and wrote a review of the research on mountain biking impacts (see <http://mjvande.nfshost.com/scb7.htm> ). I found that of the seven studies they cited, (1) all were written by mountain bikers, and (2) in every case, the authors misinterpreted their own data, in order to come to the conclusion that they favored. They also studiously avoided mentioning another scientific study (Wisdom et al) which did not favor mountain biking, and came to the opposite conclusions.

Those were all experimental studies. Two other studies (by White et al and by Jeff Marion) used a survey design, which is inherently incapable of answering that question (comparing hiking with mountain biking). I only mention them because mountain bikers often cite them, but scientifically, they are worthless.

Mountain biking accelerates erosion, creates V-shaped ruts, kills small animals and plants on and next to the trail, drives wildlife and other trail users out of the area, and, worst of all, teaches kids that the rough treatment of nature is okay (it's NOT!). What's good about THAT?

To see exactly what harm mountain biking does to the land, watch this 5-minute video: <http://vimeo.com/48784297>.

In addition to all of this, it is extremely dangerous: [http://mjvande.nfshost.com/mtb\\_dangerous.htm](http://mjvande.nfshost.com/mtb_dangerous.htm) .

For more information: <http://mjvande.nfshost.com/mtbfaq.htm> .

The common thread among those who want more recreation in our parks is total ignorance about and disinterest in the wildlife whose homes these parks are. Yes, if humans are the only beings that matter, it is simply a conflict among humans (but even then, allowing bikes on trails harms the MAJORITY of park users -- hikers and equestrians -- who can no longer safely and peacefully enjoy their parks).

The parks aren't gymnasiums or racetracks or even human playgrounds. They are WILDLIFE HABITAT, which is precisely why they are attractive to humans. Activities such as mountain biking, that destroy habitat, violate the charter of the parks.

Even kayaking and rafting, which give humans access to the entirety of a water body, prevent the wildlife that live there from making full use of their habitat, and should not be allowed. Of course those who think that only humans matter won't understand what I am talking about -- an indication of the sad state of our culture and educational system.